

**Release Notes**

# hp StorageWorks Business Copy EVA/MA/EMA 2.3 Host Agent for hp OpenVMS

**Product Version:** 2.3

Second Edition (September 2004)

**Part Number:** T3032-98207

This HP StorageWorks Business Copy (BC) for enterprise virtual array (EVA), modular array (MA), and enterprise modular array (EMA) document describes BC host agent issues not covered elsewhere in the documentation set.



---

© Copyright 1999–2004 Hewlett-Packard Development Company, L.P.

Hewlett-Packard Company makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information, which is protected by copyright. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of Hewlett-Packard. The information contained in this document is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Hewlett-Packard Company shall not be liable for technical or editorial errors or omissions contained herein. The information is provided “as is” without warranty of any kind and is subject to change without notice. The warranties for Hewlett-Packard Company products are set forth in the express limited warranty statements for such products. Nothing herein should be construed as constituting an additional warranty.

Business Copy EVA/MA/EMA 2.3 Host Agent for HP OpenVMS Release Notes  
Second Edition (September 2004)  
Part Number: T3032–98207

## About this Document

This section describes the content reflected in this document, including:

- [Release Notes information](#)
- [Intended audience](#)
- [Business Copy documentation](#)
- [Business Copy product updates](#)

### Release Notes information

These Release Notes cover the following major topics:

- [BC job examples](#), page 4
- [Known issues, resolutions, and additional information](#), page 7

### Intended audience

This document is intended for customers and HP authorized service providers.

### Business Copy documentation

BC documents are distributed using a BC documentation CD and by a Web download from the BC product page website: <http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html>. Refer to the *HP StorageWorks Business Copy EVA/MA/EMA 2.3 Getting Started Guide* (AA–RVHPA–TE) for a list of BC-related documents and part numbers.

### Business Copy product updates

BC product updates, if available, are located at the BC software and drivers page website: <http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html>.

## BC job examples

The following examples identify how to create specific types of BC jobs for replication:

- [BC defined MOUNT switches](#)
- [Discrete MOUNT example](#)
- [Raw MOUNT example](#)
- [SNAP/MOUNT example](#)
- [CLONE/MOUNT example](#)
- [Shadow Set example](#)
- [Bound Volume Set example](#)

### BC defined MOUNT switches

BC provides the following MOUNT switches:

- `/cluster`
- `/foreign`
- `/group`
- `/node=name`
- `/override=id`
- `/system`

Enter switches in the same field as the target mount point. If desired, include a space between the mount point and switch. For example, the following job functions identically using `$1$dga30:/system` or `$1$dga30: /system`.

```
MOUNT VOLUME_SINGLE SS $BCV1 osan189 N/A N/A {partition} $1$dga30: /system
```

---

**Note:** Switches cannot be abbreviated and only one switch can be used at a time. For example, the following incorrect usage causes a job failure:

```
$1$dga30:/system/over=id
```

---

The “`/node=name`” switch is not a standard OpenVMS switch. This switch provides the ability to mount a replicated unit to a specific node on a cluster.

---

**Tip:** The “name” parameter must be in a System Communication Services (SCS) node name format. For example, if using the command `$ show cluster` provides the following result:

	BMTIC2		VMS V7.3-2		MEMBER	
	BMTIC1		VMS V7.3-2		MEMBER	
	SAN188		VMS V7.3-2		MEMBER	

Then the `/node` switch can be used to mount to any of these three nodes within the cluster as follows:

```
$1$dga30:/NODE=BMTIC2
$1$dga30:/NODE=BMTIC1
$1$dga30:/NODE=SAN188
```

---

## Discrete MOUNT example

*Sample job*      `SET UNIT_BCV $BCV1 HSV7 "\\Virtual Disks\189_d6\ACTIVE"`  
                   `MOUNT VOLUME_SINGLE SS $BCV1 osan189 N/A N/A {partition} $1$dga100`

*Description:* Use the SET UNIT command to select an unmounted unit.

Mount the unit to a specific OVMS host or cluster with the Mount command.

---

**Note:** The "BCV Component Field" is *not* used for OpenVMS and correctly displays {partition}. BC ignores any value in this field.

---

In this example, the target mount point designation is \$1\$dga100. A colon may also be included at the end of the target designator, for example, \$1\$dga100:.

The target mount point establishes the unit identifier as 100 on the storage subsystem. BC *does not* automatically select the target identifier, except during jobs that replicate Bound Volume Sets (BVSs) or during Raw mounts.

You must know the available mount points before creating the BC job, and then specify the identifier using the mount point designation. Designating an identifier already in-use by another unit on that storage system or target host causes the job to fail.

## Raw MOUNT example

*Sample job*      `SNAP VOLUME osan138 $1$DGA6: $BCV1 FULLY_ALLOCATED SAME_AS_SOURCE`  
                   `MOUNT VOLUME_SINGLE SS $BCV1 osan189 RAW N/A {partition} N/A`

*Description:* This sample job snaps \$1\$dga6:, which is found on osan138.

The snapped unit is presented to host osan189 and mounted as Raw.

The mount selection box is unavailable during a Raw mount. BC uses an algorithm to automatically select the next available unit identifier.

## SNAP/MOUNT example

*Sample job*      `SNAP VOLUME osan189 $1$DGA3: $BCV1 FULLY_ALLOCATED SAME_AS_SOURCE`  
                   `MOUNT VOLUME_SINGLE SS $BCV1 osan138 N/A N/A {partition} $1$dga30:`

*Description:* This job executes a simple SNAP and MOUNT of a specific unit.

The snapped unit is mounted on the cluster osan138 with a target destination of \$1\$dga30:.

As in the previous example, make sure that \$1\$dga30: is not currently in-use on the storage system or target host to prevent this job from failing.

## CLONE/MOUNT example

*Sample job*      `CLONE VOLUME osan138 $1$DGA20: 2`  
                   `NORMALIZE VOLUME osan138 $1$DGA20:`  
                   `SPLIT VOLUME osan138 $1$DGA20: $BCV1`  
                   `MOUNT VOLUME_SINGLE SS $BCV1 osan189 N/A N/A {partition} $1$dga22:`

*Description:* This sample job clones \$1\$dga20:, which is found on osan138. The minimum membership is set to 2.

After cloning a unit or volume, always normalize the source unit before splitting off the replicated unit. Following normalization, then split the unit.

Mount the split unit to the target host and mount point using the same techniques as shown in the previous examples.

## Shadow Set example

*Sample job*      SNAP VOLUME osan138 "\$1\$dga8: ( DSA0: )" \$BCV1 FULLY\_ALLOCATED  
                     SAME\_AS\_SOURCE  
                     MOUNT VOLUME\_SINGLE SS \$BCV1 osan189 N/A N/A {partition} \$1\$dga25:

*Description:* Shadow Sets are identified on the BC graphical user interface **Resources** tab as units, followed by a "( DSA#: )" designation. For example, a shadow set named DSA0: can be composed of \$1\$dga8:, \$1\$dga9:, and \$1\$dga10:, which displays as follows on the **Resources** tab:

```
$1$dga8: ( DSA0: )  
$1$dga9: ( DSA0: )  
$1$dga10: ( DSA0: )
```

In the sample job, the job snaps \$1\$dga8: and mounts the replicated unit to osan189 as \$1\$dga25:.

---

**Note:** Any member of the shadow set can be replicated and achieved.

---

## Bound Volume Set example

*Sample job*      SNAP VOLUME VMS1 DISK\$BVS1 \$BCV1 SNAPCLONE\_HSV SAME\_AS\_SOURCE  
                     MOUNT VOLUME\_SINGLE SS \$BCV1 VMS2 N/A N/A {partition} DEFAULT\$VOLUMESET

*Description:* In this example, a SNAPCLONE operation replicates BVS DISK\$BVS1 on system/cluster VMS1.

The snapclone is then mounted on system/cluster VMS2.

See "[Bound Volume Set Restrictions](#)" on page 7 for additional information.

## Known issues, resolutions, and additional information

The following topics are covered in this section:

- [Define the bc\\$path logical prior to uninstalling BC](#)
- [Change to “OpenVMS cluster limitations and recommendations”](#)
- [Volume label character limitation](#)
- [Volume labels in MOUNT operations](#)
- [Bound Volume Set Restrictions](#)
- [Alternative to typical mount procedures](#)
- [Error: “Unexpected Exceptions”](#)

### Define the bc\$path logical prior to uninstalling BC

*Description:* BC does not uninstall properly if the bc\$path logical is not defined.

This situation occurs when BC is not configured to start automatically on host reboot and an attempt is made to uninstall BC.

*Resolution:* Complete one of the following tasks to define the bc\$path logical before uninstalling BC:

- Run `$ @sys$startup:reassign_bc$path.com`, or
- Start the BC processes using `$ @sys$startup:bc$startup.com`

### Change to “OpenVMS cluster limitations and recommendations”

The name/mount point of replicated Volume Sets cannot be changed. Specifying a mount point as part of the MOUNT operation is required for the job to work correctly. HP recommends manually entering DEFAULT\$VOLUMESET when editing the MOUNT operation.

The DEFAULT\$VOLUMESET used in previous BC releases was replaced with (OpenVMS\_device\_name) in the MOUNT operation edit drop-down list to reduce confusion when creating non-Volume Set jobs.

### Volume label character limitation

Volume labels for source disks consisting of 11 or 12 characters (maximum for VMS is 12) are not supported in BC MOUNT operations and result in BC job failures. MOUNT operations with invalid volume labels fail with an `incorrect volume label` message.

### Volume labels in MOUNT operations

During a MOUNT operation, if the replicated volume uses the same label as an existing volume or logical name on the target (whether standalone, cluster, or individual node within a cluster), the mounted volume is allocated to the process that mounts the volume.

### Bound Volume Set Restrictions

Observe the following restrictions when working with BVS jobs:

- Specifying a mount point (such as DEFAULT\$VOLUMESET) in a MOUNT operation is required for correct operation.
- Specifying a target device (such as \$1\$DGA4 :) in a MOUNT operation is not supported.

- The following switches are *not* supported for BVS operations:
  - /cluster
  - /foreign
  - /group
  - /node=name
  - /override=id
  - /system
- If the destination is a cluster, the replicated volume mounts on the cluster member functioning as the TCP/IP Impersonator node.

## Alternative to typical mount procedures

Some of the mount procedures result in a mounted volume which is allocated to the process that mounts the volume.

Use a Raw MOUNT operation on the desired target as an alternative to the MOUNT command.

These replicated volumes become available as unmounted devices (such as \$1\$DGA4 :). Complete the mount process manually or by using a script.

## Error: “Unexpected Exceptions”

*Description:* The improper use or combination of switches during MOUNT operations can result in an Unexpected Exceptions error message for the target and causes the job to fail.

*Resolution:* To correct this problem:

1. Undo the failed job.
2. Modify the switches for proper usage.
3. Rerun the job.